

Appl. No. 09/837,687
Reply to Office action of 01/09/2006

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REMARKS/ARGUMENTS

In reply to the Office Action mailed January 9, 2006, Applicants respectfully request reconsideration and allowance. In the Office Action, claims 1-19 were rejected for anticipation under 35 U.S.C. §102(e) by U.S. Patent 6,063,263 (the "Palmas patent"). Applicants respectfully traverse the rejection. Claims 1-19 remain pending in the subject application.

The rejection contends that the Palmas patent has incorporated U.S. Patent 5,565,020 (the "Niewiedzial patent") by reference. The rejection contends that the Niewiedzial patent discloses an inlet 20 of a cyclone 22 directly communicating with outlet arms (30 of the Palmas patent and 16 of the Niewiedzial patent) of a transport conduit (15 of the Palmas patent and 12 of the Niewiedzial patent). Applicants respectfully submit that the inlet 20 of the cyclone 22 does not directly communicate with the outlet arms 16 of the Niewiedzial patent. The Niewiedzial patent teaches that gases and catalysts exit from discharge opening 16 into the interior of the reactor vessel 10 where a separation occurs between the catalyst and the gases. The gases then ultimately enter from the interior of the reactor vessel into the gas recovery conduit 18 through inlet 20. The Niewiedzial patent reads: "Tangential discharge of gases and catalyst from a discharge opening 16 produces a swirling helical pattern about the interior of reactor vessel 10 below the discharge opening 16." Niewiedzial patent, column 4, lines 47-50. Hence, catalyst and gases are discharged from the outlet arms 14 into the reactor vessel 10 of the Niewiedzial patent.

Centripetal acceleration associated with the helical motion forces the heavier catalyst particles to the outer portions of reactor vessel 10. The gases, having a lower density than the solids, more easily change direction and begin an upward spiral with the gases ultimately traveling into a gas recovery conduit 18 having an inlet 20.

Niewiedzial patent, column 4, lines 50-55. Accordingly, the gases and catalyst separate from each other and spend time in the interior of the reactor vessel before ultimately entering the inlet 20 of the gas recovery conduit 18. This conclusion is further supported by the statement: "Inlet 20 is located below the discharge opening 16." Niewiedzial patent,

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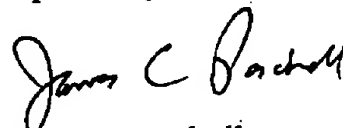
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column 4, lines 55-56. If the inlet 20 to the gas recovery conduit is below the discharge opening 16 of the outlet arm 14, the inlet 20 cannot be directly connected to the discharge opening 16 of the outlet arm 14 as contended in the rejection.

Applicants also respectfully submit that there would be no motivation to combine the teachings of the Palmas patent and the Niewiedzial patent in the manner contended. The transport conduit 15' of the Palmas patent already serves the purpose of quickly delivering catalyst and vaporous product from the open volumes 19 and 20 of the reactor 10 to the separator arms 29' to separate the catalyst from the product. Quick separation prevents further contact of catalyst and vaporous product and overcracking to undesirable products. The separator "[a]rms 29' again tangentially discharge the catalyst and entrained catalyst particles through openings 30'." Palmas patent, column 7, lines 34-36. Because the transport conduit 15' quickly removes vaporous product and catalyst from the reactor chamber to the separator arms 29', a further gas recovery conduit 18 linking to a cyclone 22 is not needed. Accordingly, adding the gas recovery conduit 18 and cyclone 22 to the riser section 15' and the disengaging arms 29' in the design of the Palmas patent would be duplicative. Accordingly, one of ordinary skill in the art, it is respectfully submitted, would not be motivated to add duplicative equipment to the designed proposed in the Palmas patent.

For the foregoing reasons, Applicants respectfully submit that claims 1-19 are neither anticipated nor obvious over the Palmas and Niewiedzial patents. Should the Examiner like to discuss this matter further, she is invited to contact the undersigned.

Respectfully submitted,



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